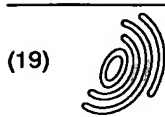


BB



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) EP 0 690 403 A3

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
03.07.1996 Bulletin 1996/27

(51) Int. Cl.⁶: G06K 7/10

(43) Date of publication A2:
03.01.1996 Bulletin 1996/01

(21) Application number: 95110299.5

(22) Date of filing: 30.06.1995

(84) Designated Contracting States:
DE FR GB IT

(30) Priority: 30.06.1994 US 268913
02.06.1995 US 463317

(71) Applicant: SYMBOL TECHNOLOGIES, INC.
Bohemia New York 11716 (US)

(72) Inventors:
• Joseph, Eugene
Port Jefferson Station, New York 11776 (US)
• Li, Yajun
Oakdale, New York 11769 (US)

• He, Duanfeng
Ronkonkoma, New York (US)
• Katz, Joseph
Stony Brook, New York 11790 (US)
• Swartz, Jerome
Old Field, New York 11733 (US)

(74) Representative: Wagner, Karl H., Dipl.-Ing.
WAGNER & GEYER
Patentanwälte
Gewürzmühlstrasse 5
80538 München (DE)

(54) **Bar code reader for reading both one dimensional and two dimensional symbologies with programmable resolution**

(57) A plurality of the areas of differing light reflectivity of a bar code symbol (34) or the like are simultaneously illuminated using, for example, a beam of laser light (22) that has an elongate cross-section. The light beam (22) is swept over the symbol to be read in a direction transverse to the elongated dimension of the illuminated region (78) so that a two-dimensional area (42) of the symbol is illuminated over time. The reflected light is sensed by a 1D CCD array (50). A microprocessor (52)

within the scanner provides visual feedback to aid a user in aligning the device, and also provides for a selectable aspect ratio for the image, a selectable image resolution and size, a selectable aspect ratio of the illumination, and a selectable pixel size. All of these options may be programmed within the microprocessor (52), enabling the device to read a large variety of two-dimensional symbols.

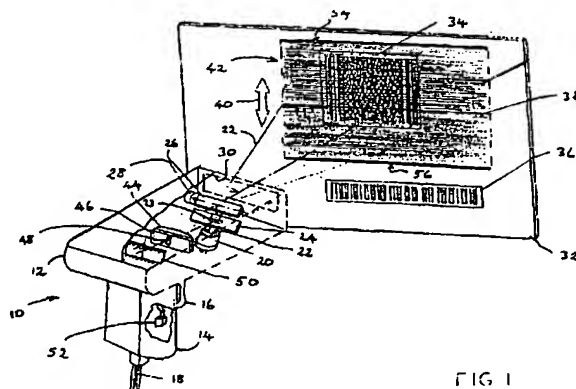


FIG 1

EP 0 690 403 A3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 95 11 0299

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	WO-A-93 18478 (NORAND CORPORATION) * page 5, line 6 - page 6, line 25; figure 4 *	1,3,10	G06K7/10
Y	---	8	
Y	US-A-5 117 098 (J. SWARTZ) * column 3, line 14 - line 16; claim 1 *	8	
A	---	1,9,10	
X	EP-A-0 384 955 (SYMBOL TECHNOLOGIES, INC.) * column 5, line 31 - line 54 * * column 7, line 21 - line 24; claims 1,10; figure 1 *	1,10	
A	US-A-4 963 756 (R. QUAN ET AL.) * column 3, line 24 - line 43; figure 1 *	1,10	
A	EP-A-0 576 220 (MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD) * column 3, line 2 - line 11; figure 1 *	4,5	
A	ID SYSTEMS EUROPEAN EDITION, vol. 1, no. 1, March 1993, PETERBOROUGH, NH, US, pages 16-18, XP000443107 KEVIN R. SHARP: "2-d bar codes change businesses" * page 17 *	8,9	TECHNICAL FIELDS SEARCHED (Int.Cl.6) G06K
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 22 April 1996	Examiner Ducreau, F
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

EPO FORM 150 01/92 (P/CN)